MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Jefferson #8

Drinking Water State Revolving Fund Green Project Reserve
Business Case

State Fiscal Year 2012 Intended Use Plan

Project Number DW291322-01

Loan Date: November 29, 2012

Green Estimated Costs: $520,000

Water System Improvements for Jefferson #8, Missouri
Business Case

Summary

- The purpose of the project is to upgrade the existing well No. 4 to increase well output from approximately 245 gallons per minute to 400 gallons per minute, increasing the size of the impeller from seven-inches (7") to seven and three quarter-inches (7.75"), the replacement and addition of approximately 3,354 feet of eight-inch (8") water main and all the necessary appurtenances to complete the project and have an usable system. The addition and replacement of the water mains for this project is to provide looping, to address system failures, such as water main breaks, and provide the expected capacity due to the forecasted growth.
- SRF Assistance Amount: $520,000
    - pipe replacement = $520,000 = 100%

Background

- The water source for the District's water system comes from three (3) wells with a total pumping capacity of approximately 1.16 MGD.
- The distribution system consists of water mains ranging in size from two (2) to twelve (12) inches in diameter. The distribution system also includes four (4) water storage tanks with total usable storage of 633,000 gallons.
- The District currently serves a population of approximately 7,000 with an average daily water demand of approximately 348,000 gallons per day (gpd) and a maximum daily demand of approximately 522,000 gpd. Recent history indicates that the water customers for the District have been steadily increasing by approximately one (1) percent per year. The future estimated population to be served for the year 2028 will be approximately 9,700 with an average daily demand of approximately 482,000 gpd and 723,000 gpd for peak daily demand.

Results/Conclusion

- Replacing the old, leaking water mains will increase water efficiency by decreasing the amount of water lost.
- Water meter replacement benefits include reductions in unnecessary pumping and operation and maintenance expenditures, and eliminating potential health hazards associated with waterborne pathogens entering the water distribution system.